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**DISCOVERY**  
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# The First Record of *Allium blomfieldianum* Asch. & Schweinf. (Liliaceae) from Libya

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## ABSTRACT

*Allium blomfieldianum* Asch. & Schweinf., has been reported for the first time from Libya. This species is native to Marmarica (Egyptian side of Marmarica). Flowering specimens of *Allium blomfieldianum* were collected from Marmarica west of Tobruk city far north-east Libya. It is presented with updated nomenclature, taxonomic description, geographical distribution, place of occurrence in Libya, and field colored photographs are also provided. The voucher specimens were deposited in the Herbarium of Botany Department (ULT), Tripoli University, Libya.

**Key words:** *Allium blomfieldianum*, Liliaceae, Alliaceae, Flora, new species, Marmarica.

## 1. INTRODUCTION

*Allium* L. is the largest genus of petaloid monocotyledons (excluding orchids) with some 750 species distributed mostly in Northern Hemisphere (Stearn, 1992) distributed in four sections which are Section *Allium*, Section. *Codonoprasum*, Section. *Molium* and. Section *Melancrommyum* (El-Garf, 2000). There is a current tendency to retain the genus *Allium* and its allied genera in the Liliaceae, but some authorities include them in Amaryllidaceae, while others recognize these taxa as separate family, the Alliaceae which resembles Liliaceae in its superior ovary and Amaryllidaceae in its scapose umbellate inflorescence subtended by a spathe, but forms a intermediate group between them and is best kept separate from both (El-Garf, 2000).

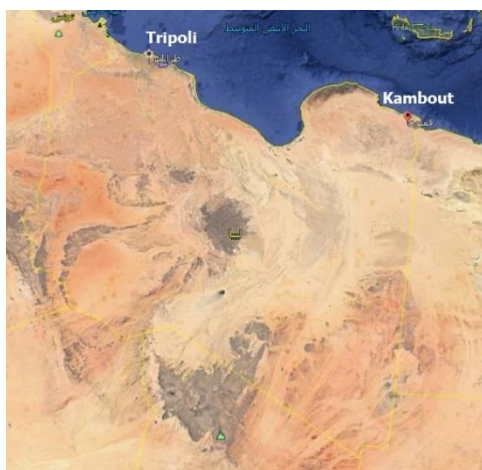
For convenience's sake, placing the genus *Allium* in the separate family Alliaceae have been proposed by Agardh (1858), and reinstalled by Airy Shaw (1966, 1973) and Wendelbo in flora Iranica (1971), followed by Nasir (1975) in the flora of west Pakistan, and El-Gadi (1977) in the flora of Libya.

In our area, the genus *Allium* is placed in the separate family Alliaceae, and it is the only genus in this family in the flora of Libya and represented by 18 species, out of them 14 species are growing wild and four species are known from cultivation only (El-Gadi (1977). In this paper *Allium blomfieldianum* an alien species is recorded and added to the flora of Libya

which will rise the number of *Allium* species in the flora of Libya to 19 species which previously represented in Libya by 18 species, of these 4 are known from cultivation only.

## 2. METHODS

Plant specimens were collected from Kambout district belongs to Marmarica province about 50 km east of Tobruk city, and less than 100 kilometers from Libyan – Egyptian border area of Emsaed. Its coastline extends to the Mediterranean sea for a distance of more than 28 kilometers, it bordered to the east by Bir Al-Ashhab region, to the west by the Al-Qaara region and from the south it extends to the great sea of sand (Fig.1 and 2). The collected specimens were treated with ordinary herbarium techniques (Pressing, drying, mounting, labeling). Plant identification and authentication procedure were carried out at the Herbarium of Botany Department (ULT), Faculty of Science, University of Tripoli using the data from the following literatures (Täckholm, 1974; El-Garf, 2000; Bolous, 2005). The plant species was given voucher number (196733191), the Voucher specimens were deposited in the same herbarium.



**Figure 1:** Map of Libya showing locality.



**Figure 2:** Map of Kamout district.

### Description of Species:

*Allium blomfieldianum* Asch. & Schweinf., Bull. Herb. Boiss. 1: 671, t. 20 (1893); Boulos, Fl. Egypt 4: 65 (2005).

Bulb 1-1.5 cm diam., ovoid; outer tunics subcoriaceous, brown, splitting vertically into triangular sections; stem subterete to obscurely 2 angled 3-10 cm; leaves 3-5, 3-9 mm, flat, linear, acute, keeled below, often coiled near the apex, ciliate on margins and mid-vein beneath, basal, sheaths formed below ground; spathe papery, 1-valved, the valve split into 3-4 lobes, ovate, acuminate, equaling the pedicels, persistent; umbel 2-4 cm diam., spherical, many-flowered, dense; pedicels 0.8-1.5 cm; perianth segments 6 in two whorls, the outer segments spreading and the inner suberect; segments 6-8 mm, white, suborbicular to broadly ovate, obtuse to subacute, persistent; stamens shorter than perianth; filaments white, flat, triangular, broader toward base; anthers included, yellow; style included; capsule c. 4 mm. (Fig.3, 4).

**Flowering time:** April-September.

2n=16 (Hamoud *et al*, 1990).

The above description is based on herbarium specimens with the help of the following literature (Takholm, 1974; Bolous, 2005).

**Habitat:** sandy and clayish stony places at low altitudes near the sea.

**Distribution:** Endemic to Marmarica (North east Libya to north west Egypt).

**Holotype:** The type of *Allium blomfieldianum* was collected in Mersa Matruh, Egypt, 8 March 1890, Schweinfurth, no. 238 (Holo B, iso G, K, P).



**Figure 3:** *Allium blomfieldianum*. habit



**Figure 4:** *Allium blomfieldianum*. flowers

### 3. RESULTS AND DISCUSSION

A specimens of *Allium blomfieldianum* were collected from Kelmout region belongs to Marmarica in the far northeast of Libya near Libyan – Egyptian border during floristic field trip in June 1019, the specimens were identified depending on literatures of Tackholm (1974) and Bolous (2005), the plant characterized by dwarf habit ranges from 2 – 10 (15) cm high, perianth segments glossy, the 3 inner segments erect, the 3 outer erect.

This species were endemic to Egyptian side of Marmarica in northwest of Egypt, which formerly only known from Marsa Matruh about 20 km of Alexandria. The holotype was collected in Mersa Matruh, Egypt, 8 March 1890, Schweinfurth, no. 238 (Bolous, 2005) and included in the flora of Egypt by Tackholm, 1974; Bolous, 2005; El-Garf, 2000).

In this paper *Allium blomfieldianum* is recorded and added for the first time the flora of Libya, which will add the number of *Allium* species in our area to 19 species which were represented by 18 species, of these 4 are known from cultivation only, in addition, this finding will extend the distribution of this species to the west part of Marmarica in the northeast Libya, and broaden its endemism to Libya instead of Egypt only (Biendemic), therefore, it will give a new information about the status, distribution and endemism.

#### Conflict of Interest

The authors declare that there are no conflicts of interests.

#### Funding

This study has not received any external funding.

#### Ethical approval

The ethical guidelines for plants & plant materials are followed in the study for species collection & identification.

#### Data and materials availability

All data associated with this study are present in the paper.

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